CLAIMS

What is claimed is:

1. An interface device to couple a musical instrument to a computing device, the computing device to perform digital signal processing (DSP) on a digitized audio signal of the musical instrument received from the interface device to create a processed digital audio signal of the musical instrument, the computing device to present a multimedia presentation of a digital audio file to the user and to create a mixed digital signal of both the processed digital audio signal of the musical instrument and the digital audio file, the interface device to cause the mixed digital signal to be converted into analog form for transmission through an analog sound device to the user presenting sound to the user thereby allowing the user to play a musical instrument in conjunction with the multimedia presentation, the interface device comprising:

a processor;

a digital to analog (D/A) converter to convert the mixed digital signal of both the processed digital audio signal of the musical instrument and the digital audio file received from the computing device into a mixed analog audio signal; and

a digital audio interface to control timing and formatting of the digitized audio signal of the musical instrument and the mixed digital signal;

wherein the processor controls the digital audio interface such that the mixed digital signal is transmitted through the D/A converter and through the analog sound device to the user to allow the user to play a musical instrument in conjunction with the multimedia presentation of the audio file.

2. The interface device of claim 1, further comprising a serial input/output (I/O) controller to couple the interface device to the computing device through a serial I/O link.

3. The interface device of claim 2, wherein the serial input/output (I/O) controller is a Universal Serial Bus (USB) controller and the interface device is coupled to the computing device through a USB link.

4. The interface device of claim 1, further comprising a mixer to include other audio signals for output to the analog sound device.

5. The interface device of claim 1, further comprising a volume controller to control the volume of the processed analog audio signal and the analog audio file for output to the analog sound device.

6. The interface device of claim 1, wherein the analog sound device includes at least one speaker.

7. The interface device of claim 1, wherein a track associated with the user's musical instrument is removed from the digital audio file associated with the multimedia presentation such that the user can play the user's musical instrument in conjunction with a multimedia presentation of the audio file that does not include the user's musical instrument.

8. The interface device of claim 7, wherein the multimedia presentation includes music notation associated with the audio file that is displayed to the user.

9. The interface device of claim 1, wherein the musical instrument is a guitar.

10. The interface device of claim 1, wherein the computing device receives the multimedia presentation of the digital audio file from a server through a computer network.

11. The interface device of claim 10, further comprising a security device to identify the interface device as an authorized interfaced device based upon a unique identifier stored in the security device.

12. The interface device of claim 11, wherein the unique identifier stored in the user's security device is the serial number associated with the interface device.

13. The interface device of claim 11, wherein the security device stores a user key associated with the interface device.

14. The interface device of claim 13, wherein the digital audio file transmitted from the server to the computing device of the user is encrypted with an audio file key associated with the digital audio file and the audio file key is encrypted with the user key for the user and is also transmitted to the computing device.

15. The interface device of claim 14, wherein the security device decrypts the audio file key that is encrypted with the user key using the stored user key and transmits the decrypted audio file key to the computing device such that the computing device uses the decrypted audio file key to decrypt the audio file.

16. A method of coupling a musical instrument to a computing device to allow a user to play a musical instrument in conjunction with a multimedia presentation, the computing device performing digital signal processing (DSP) on a digitized audio signal of the musical instrument to create a processed digital audio signal of the musical instrument, the computing device to present a multimedia presentation of a digital audio file to the user and to create a mixed digital signal of both the processed digital audio signal of the

musical instrument and the digital audio file, the interface device to cause the mixed digital signal to be converted into analog form for transmission through an analog sound device to the user presenting sound to the user thereby allowing the user to play a musical instrument in conjunction with the multimedia presentation, the method comprising:

transmitting a digitized audio signal of the musical instrument to the computing device for digital signal processing for creating a processed digital audio signal of the musical instrument;

converting the mixed digital signal of both the processed digital audio signal of the musical instrument and the digital audio file from the computing device into a mixed analog audio signal; and

controlling timing and formatting of the digitized audio signal of the musical instrument and the mixed digital signal such that the mixed analog audio signal is properly timed for transmission through the analog sound device to the user to allow the user to play a musical instrument in conjunction with the multimedia presentation of the audio file.

17. The method of claim 16, wherein coupling the musical instrument to the computing device further includes utilizing a serial input/output (I/O) controller to couple the musical instrument to the computing device through a serial I/O link.

18. The method of claim 17, wherein the serial input/output (I/O) controller is a Universal Serial Bus (USB) controller and the serial I/O link is a USB link.

19. The method of claim 16, further comprising including other audio signals for output to the analog sound device.

20. The method of claim 16, wherein the analog sound device includes at least one speaker.

21. The method of claim 16, wherein a track associated with the user's musical instrument is removed from the digital audio file associated with the multimedia presentation such that the user can play the user's musical instrument in conjunction with a multimedia presentation of the audio file that does not include the user's musical instrument.

22. The method of claim 21, wherein the multimedia presentation includes music notation associated with the audio file that is displayed to the user.

23. The method of claim 16, wherein the musical instrument is a guitar.

24. The method of claim 16, wherein the computing device receives the multimedia presentation of the digital audio file from a server through a computer network.

25. The method of claim 24, further comprising identifying the user based upon a unique identifier.

26. The method of claim 25, wherein the unique identifier is a serial number.

27. The method of claim 25, further comprising storing a user key.

28. The method of claim 27, wherein the digital audio file transmitted from the server to the computing device of the user is encrypted with an audio file key associated with the digital audio file and the audio file key is encrypted with the user key for the user and is also transmitted to the computing device.

29. The method of claim 28, further comprising:

decrypting the audio file key that is encrypted with the user key using the stored user key; and

decrypting the audio file with the decrypted audio file key.

30. A machine-readable medium having stored thereon instructions, which when executed by an interface device, cause the interface device to perform operations, the interface device coupled to a musical instrument and to a computing device to allow a user to play a musical instrument in conjunction with a multimedia presentation, the computing device performing digital signal processing (DSP) on a digitized audio signal of the musical instrument to create a processed digital audio signal of the musical instrument, the computing device to present a multimedia presentation of a digital audio file to the user and to create a mixed digital signal of both the processed digital audio signal of the musical instrument and the digital audio file, the interface device to cause the mixed digital signal to be converted into analog form for transmission through an analog sound device to the user presenting sound to the user thereby allowing the user to play a musical instrument in conjunction with the multimedia presentation, the interface device to perform the following operations comprising:

converting the analog audio signal of the musical instrument into a digitized audio signal;

transmitting the digitized audio signal to the computing device for digital signal processing for creating a processed digital audio signal of the musical instrument;

converting the mixed digital signal of both the processed digital audio signal of the musical instrument and the digital audio file from the computing device into a mixed analog audio signal; and

controlling timing and formatting of the digitized audio signal of the musical instrument and the mixed digital signal such that the mixed analog audio signal is properly

timed for transmission through the analog sound device to the user to allow the user to play a musical instrument in conjunction with the multimedia presentation of the audio file.

31. The machine-readable medium of claim 30, further comprising instructions to control a serial input/output (I/O) controller to permit the interface device to couple the musical instrument to the computing device through a serial I/O link.

32. The machine-readable medium of claim 32, wherein the serial input/output (I/O) controller is a Universal Serial Bus (USB) controller and the serial I/O link is a USB link.

33. The machine-readable medium of claim 30, further comprising instructions for including other audio signals for output to the analog sound device.

34. The machine-readable medium of claim 30, further comprising instructions for controlling the volume of the processed analog audio signal and the analog audio file for output to the analog sound device.

35. The machine-readable medium of claim 30, wherein the analog sound device includes at least one speaker.

36. The machine-readable medium of claim 30, wherein a track associated with the user's musical instrument is removed from the digital audio file associated with the multimedia presentation such that the user can play the user's musical instrument in conjunction with a multimedia presentation of the audio file that does not include the user's musical instrument.

37. The machine-readable medium of claim 30, wherein the multimedia presentation includes music notation associated with the audio file that is displayed to the user.

38. The machine-readable medium of claim 30, wherein the musical instrument is a guitar.

39. The machine-readable medium of claim 30, wherein the computing device receives the multimedia presentation of the digital audio file from a server through a computer network.

40. The machine-readable medium of claim 39, further comprising instructions for identifying the user based upon a unique identifier.

41. The machine-readable medium of claim 40, wherein the unique identifier is a serial number.

42. The machine-readable medium of claim 40, further comprising storing a user key.

43. The machine-readable medium of claim 42, wherein the digital audio file transmitted from the server to the computing device of the user is encrypted with an audio file key associated with the digital audio file and the audio file key is encrypted with the user key for the user and is also transmitted to the computing device.

44. The machine-readable medium of claim 43, further comprising instructions for:

decrypting the audio file key that is encrypted with the user key using the stored user key; and

decrypting the audio file with the decrypted audio file key.